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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,964	06/21/2001	Ya Fang Liu	YEU-P02-001	6742

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EXAMINER
WEBER, JON P

ART UNIT	PAPER NUMBER
1651	

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.	Applicant(s)
09/886,964	LIU, YA FANG
Examiner	**Art Unit**
Jon P Weber, Ph.D.	1651

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
4)☐ Interview Summary (PTO-413) Paper No(s). _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other:

Status of the Claims

Claims 33-43 have been presented for examination.

Election/Restrictions

Applicant's election with traverse of Group II, claims 36-43 in Paper No. 10, filed 03 February 2003 is acknowledged. The traversal is on the ground(s) that there is no burden of search and no examples of inhibitors that can be used in the method. This is not found persuasive because burden was established because the groups are in completely different classes not merely subclasses. A search for one group would not lead the other. Inhibitors of protein kinases are structurally varied, and have variable (and sometimes contradictory) effects on the nervous system and other tissues. It has been proposed, for example, to use functional derivatives of K-252a to treat Parkinson's and other neuronal diseases (Lewis et al. US 5741808). This and many other references disclose kinase inhibitors that may be suitable in the instantly claimed process.

Applicant further elected the species of Parkinson's as the disease. In view of the unpatentability of the elected species (*vide infra*) claims 38 and 42 are withdrawn from consideration as not being drawn to the elected species, and claims 36-37, 39-41 and 43 are examined only insofar as they read on the elected species.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 36-43 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant claims are drawn to a method of treating Parkinson's with compounds that have been identified by a specified neuronal death screening assay.

No compounds have been presented in the disclosure which have been identified by this screening assay at all, let alone compounds which may be used to treat Parkinson's. Clearly lacking any compounds, there is no evidence presented that there are compounds that can treat Parkinson's. The instant claims constitute nothing more than a wish to know compounds that meet a desired criteria. It would require a substantial inventive contribution for the person of ordinary skill in the art to find suitable compounds. They would have to identify suitable agents to screen, and screen them, and finally determine if the screened compounds have the desired activity. While the second and third steps are tedious and difficult with the assays presented, presumably they could be performed. However, the first step involves substantial inventive contribution. There is no guidance on narrowing the universe of all possible compounds to any subset of compounds that may be found to meet the desired condition. In chemistry there is a necessary triumvirate of structure-function-reactivity. The disclosure has not established or

disclosed any structure that can meet the desired function or reactivity. There is no evidence that the person of ordinary skill in the art already has a reasonable expectation of finding such compounds.

The breadth of the claims implies it is believed that 35 U.S.C. § 112, first paragraph permits an artisan to present claims of essentially limitless breadth so long as the specification provides one with the ability to test any particular embodiment which is encompassed by the material limitations of a claim and thereby distinguish between those embodiments which meet the functional limitations from those embodiments which don't. This argument is not entirely without merit. However, the issue here is the breadth of the claims in light of the predictability of the art as determined by the number of working examples, the skill level of the artisan and the guidance presented in the instant specification and the prior art of record. This 'make and test' position is inconsistent with the decisions of *In re Fisher*, 427 F.2d 833, 166 USPQ 18 (CCPA 1970), *Amgen v. Chugai Pharmaceuticals Co. Ltd.*, 13 USPQ2d, 1737 (1990), and *In re Wands*, 8 USPQ2d, 1400 (CAFC 1988). *In re Wands* stated that the factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art and, (8) the breadth of the claims.

All of these factors are addressed in the rejection. Breadth alone is not the issue, however. *In re Fisher*, 427 F.2d 833, 166 USPQ 18 (CCPA 1970), held that

"Inventor should be allowed to dominate future patentable inventions of others where those inventions were based in some way on his teachings, since such improvements while unobvious from his teachings, are still within his contribution, since improvement was made possible by his work; however, he must not be permitted to achieve this dominance by claims which are insufficiently supported and, hence, not in compliance with first paragraph of 35 U.S.C. 112; that paragraph requires that scope of claims must bear a reasonable correlation to scope of enablement provided by specification to persons of ordinary skill in the art; in cases involving predictable factors, such as mechanical or electrical elements, a single embodiment provides broad enablement in the sense that, once imagined, other embodiments can be made without difficulty and their performance characteristics predicted by resort to known scientific law; in cases involving unpredictable factors, such as most chemical reactions and physiological activity, scope of enablement varies inversely with degree of unpredictability of factors involved."

Having established the breadth of the claims, *Wands* now requires that one consider the number of working examples presented in the instant specification. It is noted that there is not a single example in the instant specification, working or prophetic, of compounds that treat Parkinson's. Since there are **no** working examples, then one must consider the guidance provided by the instant specification and the prior art of record. The instant specification provides absolutely no guidance as the structure of any suitable compounds to be used in the treatment method. Further, there is no analogous compounds for which has been identified in the prior art for which this information is known and could be extrapolated to the instant method by analogy. In conclusion, the instant claim encompasses a vast, almost limitless, number of compounds and yet the instant specification provides no working examples and no guidance that would permit and artisan to practice the invention commensurate with the scope of the instant claims.

The argument is based upon the premise that the standard under 35 U.S.C. § 112, first paragraph, is that of making and testing a compound to see if it obtains the desired activity and properties. This is a position that has been routinely dismissed by the courts, as shown by those decisions cited above.

Further, *In re Wands* determined that the repetition of work which was disclosed in a patent application as producing a composition containing an antibody, which is a naturally occurring compound, did not constitute undue experimentation even if the antibody produced thereby was not identical to those that were disclosed in that application. The instant claims are not limited to known compounds and the instant specification does not provide a description of a repeatable process of producing a novel compound. To practice the instant invention in a manner consistent with the breadth of the claims would not require just a repetition of the work that is described in the instant application but a substantial inventive contribution on the part of a practitioner which would involve making suitable test compounds which are required for the screening assay. It is this additional characterization suitable compounds that is required in order to obtain the data needed to permit one to produce any compound which meets both the requirements of the instant claims that constitutes undue experimentation.

These decisions have been relied upon in the instant rejection and by the court because they show that the judicial interpretation of the first paragraph of 35 U.S.C. § 112 requires that the breadth of claims must be based upon the predictability of the claimed subject matter and not on some standard of trial and error. To argue that one can make material embodiments of the invention and then test for those that work in the manner disclosed or that the instant claims only encompass the working embodiments is judicially unsound. Unless one has a **reasonable expectation** that any one material embodiment of the claimed invention would be more likely than not to function in the manner disclosed or the instant specification provides sufficient guidance to permit one to identify those embodiments which are **more likely to work that not** without actually making and testing them then the instant application does not support the

breadth of the claims. In the instant case it is highly improbable that any compound known or unknown will more likely than not perform in the manner disclosed and the instant specification does not provide the guidance needed to predictably produce compounds with any reasonable expectation that the resulting compounds will function as an therapeutic for Parkinson's.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 36 37, 39-41 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 36-37, 39-41 and 43 are now broadly drawn to non-elected subject matter, diseases other than Parkinson's.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 36-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US 6,060,247).

Miller et al. (US 6,060,247) disclose a screening assay for finding test compounds that have neuronal death and/or growth-modulating activity. The assay involves transfecting postmitotic neurons with adenovirus vector constructs containing any genes that express proteins that can be used to assess the therapeutic value of test compounds for neuronal death and or growth-modulating activity, and screening the compounds (columns 7-8). The identified compounds may be administered to patients (column 8, lines 61-64+). Diseases that may be treated with compounds identified by the method include Parkinson's (column 1, line 21). The specific gene exemplified was p53, however the constructs may be made and used in a similar fashion with many other genes including those for mixed lineage kinases (MLK) (column 29, line 41 to column 30, line 9).

Miller et al. (US 6,060,247) do not exemplify the MLK construct or identifying compounds and then treating Parkinson's patients therewith. However, Miller et al. (US 6,060,247) clearly suggest that their method can be adapted to using a MLK construct to find compounds which modulate neuronal death and that such compounds can be used to treat diseases such as Parkinson's.

Hence, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to treat Parkinson's with compounds identified as inhibiting MLK enzymes. The screening assay used should not materially change the method of treating Parkinson's with a MLK inhibitor. If the screening assay does not detect a suitable compound, it would not be enabling.

Other references cited by examiner but not relied upon are cited to establish the state of the art.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon P Weber, Ph.D. whose telephone number is 703-308-4015. The examiner can normally be reached on daily, off 1st Fri, 9/5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Jon P Weber, Ph.D.
Primary Examiner
Art Unit 1651

JPW
February 7, 2003